Hobbies WEEKLY

CONTENTS

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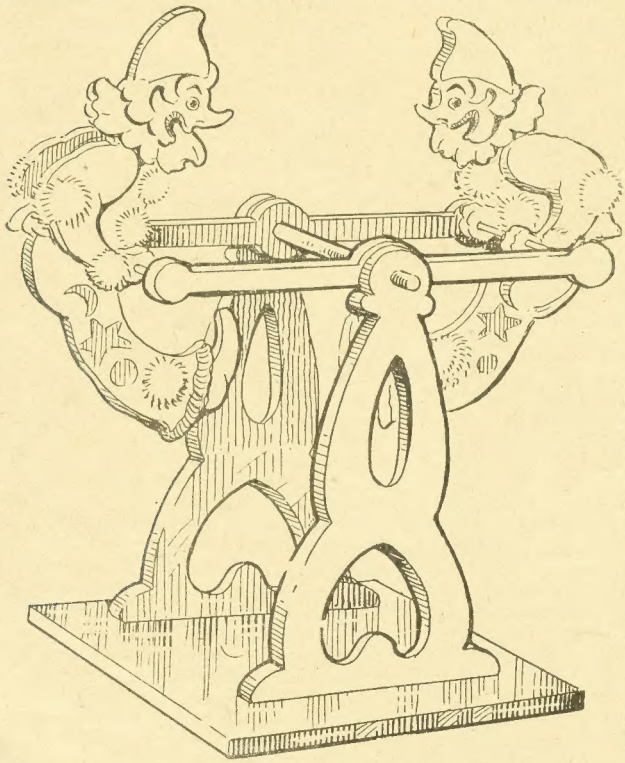
Full size pattern for the novelty toy—the

TUMBLING CLOWNS

THE making of working models and toys is always one of the most fascinating types of work for our readers. The trouble however is, no illustration, whether it be photograph or pen and ink sketch, can adequately convey what that particular model or toy looks like while it is in motion.

There is always something very fascinating in a working model—the very fact of seeing the "wheels go round", and in some cases, in perhaps a more elaborate model, of seeing a mass of working parts all moving in perfect harmony makes for the attractiveness of such work.



So it is with our working toy which we illustrate and describe here. It must be made up first before its real appeal can be understood. In our illustration, here we show the finished toy, all well finished and attractively painted.

Two jolly-looking clowns are having a swing on a short horizontal bar held by decorated supports on a sturdy base plate. The pivot bar, directly connected with the swing, has a projecting end which can be moved round by thumb and finger, thus giving motion to the clowns in their circular flight.

Painted Finish

Much depends of course upon the actual finish and painting of the clowns for the attractiveness of the toy. The worker is therefore advised to do his best in this respect and follow closely the guide lines shown on the figures of the clowns given on the special pattern sheet in this issue. Bright colours in oil or poster paint are best, with a finish of varnish to preserve the surface when the colouring is dry.

A set of full size patterns for many parts is given on page 247. To commence work, then, on the toy we first mark out the base to the measurements given in Fig. 1. Wood $\frac{1}{4}$ in. or $\frac{3}{8}$ in. would answer for this. Even $\frac{1}{2}$ in. thick stuff would not be too much, and if this is used the edges could be chamfered or rounded off to lighten the appearance. Note in the diagram the two mortises, and see that the space between the two measures 2 ins.

Using the Patterns

Turning to the page of patterns cut roughly round that of the upright with a pair of scissors and paste the paper down to $\frac{1}{4}$ in. wood. If the worker is at all expert at drawing let him trace the outline in pencil instead of destroying his copy of Hobbies Weekly and transfer this

outline to the wood by means of carbon paper.

Then having cut the piece with a fretsaw, including, of course, the interior openings, lay it on the second piece of wood and draw round it with a sharp pencil point. See that the tenons A are correct in length with those of the mortises in the base.

Next cut two of the cross arms, adopting the same method of pattern fixing as for the uprights. At this juncture the assembling can be commenced and the uprights glued into the base.

A good plan is to put a piece of spare wood between the two uprights and at the top end of them as a spacing piece until the glue has hardened. The wood must be 2 ins. wide, that is, the same width as the mortises are apart at the base.

Making the Figures

The work of cutting the clowns can now go forward while the glue is hardening. Trace the outline of the figure and the arm from that shown on the pattern sheet and also fill in with the decorative work so that a complete guide is made when the whole is transferred to the ¼ in. wood.

Cut out the pieces with the fretsaw and clean off any rough edges left from sawing. Lay the figure on the second piece of wood and carefully draw round with a sharp pencil. Also mark off three more arms, using the cut-out one as a template for marking round. Glue a pair of arms to the body of each clown making quite sure to get them in the exact position shown by the dotted lines to ensure balance.

Colouring

The colouring can now be done, the bright colours being chosen

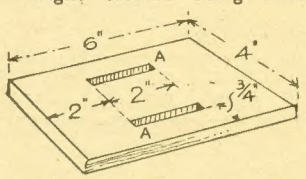


Fig. 1—The base and its slots

beforehand. The colour scheme might well be as follows:—Red cap and coat with white for collar and for pom-poms on coat, arms and trousers. Trousers dark blue with stars and crescent in yellow, shoes light brown or black. Both sides of each clown must of course be painted.

The base and uprights may next be painted—red for the uprights and green for the base. The cross arm might be yellow with black edges.

Now get a piece of $\frac{3}{16}$ in. round rod 4 ins. long and pass it through the hole in the top of one of the uprights. Thread on the two cross arms and then push the rod further so it goes through the second upright. See the rod projects each side for a distance of ¾ in.

Gluing the Parts

The cross arms must fit tightly on the rod and be glued securely, and exactly opposite each other. If desired, thin ivorine or celluloid washers, see pattern sheet, may be added to the round rod at the same time the cross arms are being threaded on. These, and the positions of all the parts mentioned above are shown in the full-size detail on the pattern sheet. Here, F, is the clown, figure A, the clown's arms; B, the cross arms; W, the washers and U, the main uprights. Spacings can be measured from this detail.

Now cut off two pieces of stout wire, 1¾ ins. long and push them through first one cross arm, then through the holes in the hands of each clown and finally through the second cross arm.

A dab of glue will hold the wire fast in the cross arms, but the hands of the clowns will of course work freely round the wires. Beyond a touch up here and there with paint or varnish the toy is complete.

Some Radio Replies of General Interest—

Crystal Set Selectivity

COULD you tell me how to control the stations on my crystal set, because when I switch it on, all the stations crowd together and I can hear about 4 or 5 at a time. (*D.H.—Hounslow*).

THE trouble is caused by unselective tuning. No crystal receiver can tune very sharply, but it should be possible to receive the major stations without interference.

A rather long aerial can cause the trouble, so the wire may be shortened, or a condenser of about .0002 mfd. included in the lead-in. The receiver you mention is simplified as far as possible, and in consequence is not very suitable for reception in areas where several stations are strongly received. Although a short aerial will reduce this, such conditions really require a different tuning system from the adjustable coils.

A coil made of about 65 turns of 26 S.W.G. wire on a former about 1½ins. in diameter may be used. This should be connected from aerial to earth instead of the flat coils now in use, and a tuning condenser (.0005 mfd.) should also be connected across the coil. The aerial may be taken to a tapping near the centre of the tuning coil. A similar effect would be obtained by adding a tuning condenser across the coils now in use, although this would not be so selective.

Bell Interference

I HAVE an electric bell working with a transformer, which interferes with the mains wireless set. Kindly inform me how to stop this interference. (*M.R.D.—Llanybyther*).

PRESUMING that the bell, transformer or wiring is not very close to the receiver or aerial, or the aerial lead, the interference is being carried by the mains. Because of its low frequency nature, it is very difficult to filter it out. An attempt should therefore be made to reduce it at the bell. Examine the contacts to see that they are not sparking unduly. Sparking may be reduced by connecting a condenser of about .1 to .5 mfd. across the contacts of the trembler, or from the contact which is at the highest potential to an earth lead. Sometimes simply reversing the leads to the receiver will reduce mains-carried interference. If the sound is still too troublesome after having the bell and transformer, with associated wiring, as far apart from the receiver and its leads as possible, the only likely cure would lie in installing a new bell, with as complete smoothing as possible.

Pick-up Arm

I WISH to make my portable gramophone run from the wireless. I have been told that it is possible to fit an electric sound-box on to the original arm. Is this right? (*A.R.C.—Ingatestone*).

YOU will do best to purchase a pick-up complete on arm, and a magnetic pick-up will give you most volume, and give the simplest circuit as it is only necessary to take twin flex leads from it to the pick-up sockets of the receiver.

The base of the pick-up should be screwed down on the gramophone motor board in a position similar to that originally occupied by the tone-arm. When swung fully to the centre, the pick-up needle should come to rest slightly beyond the turntable spindle. Most manufacturers enclose a paper template with their models, and this will show you the exact position in which the pick-up should be secured for proper results.

Any lady will be delighted if you make for her a PLASTIC HAIRGRIP BOX

HAIR grips, like collar studs, have an exasperating habit of getting lost, usually because their owners possess no handy receptacle in which to store them when not in use. This little Perspex box makes it easy to keep them together and is an ideal gift for a wife or sweetheart.

Fig. 1 shows the details and a start is made by cutting the base from 1/16in. thick Perspex. Make sure the corners are perfectly square or later on you will find it impossible to make the lid a smooth fit in its grooves. Test the angles with a square to make sure they have been correctly shaped.

The Grooved Sides

Three of the sides are cut from $\frac{1}{2}$in. by $\frac{1}{4}$in. Perspex and they are grooved $\frac{1}{8}$in. deep and 1/6in. wide for the lid. The best way to make these is to take a strip of material $\frac{1}{4}$in. thick and about 1in. wide and fix it to an odd piece of wood by a small countersunk wood screw at each end.

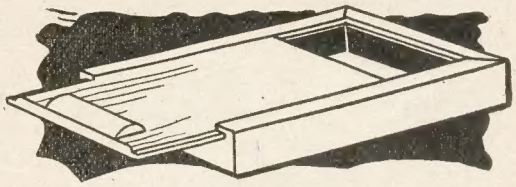
Arrange the Perspex so it overlaps the wood by a fraction, then fix the wood to the bench top in the way shown in Fig. 2.

Grooving

The grooves are cut most easily with a cabinetmaker's scratch, which is shown in Fig. 3. This is a most useful appliance to have and is well worth making if you do not already possess one.

It consists of two pieces of hardwood screwed together to form the "stock", whilst the cutter is a scrap of old hacksaw blade or a piece cut from an old scraper. The enlarged view shows how the edge is ground square.

Use the tool as shown in Fig. 2 with the stock pressed against the edge of the work and pushing the tool away from you as though using a cabinet scraper. Start from the *far* end of the work and gradually lengthen the cut as the groove is formed.



For use on wood, a depth gauge can be fitted, but for Perspex this is not advisable as the polished surface of the material is so easily marked and thus spoiled. It will therefore be necessary to check the depth of the groove at frequent intervals to make sure that one part is not being cut deeper than the rest.

When the groove has been formed, cut a $\frac{1}{2}$in. wide strip to include the groove from the Perspex and separate this into the three side pieces. The fourth side is cut $1\frac{1}{2}$in. long by $\frac{5}{8}$in. wide by $\frac{1}{4}$in. thick and the ends are left square.

Mitres

The three grooved sides are now mitred and this must be done accurately if the result is to be successful. A little extra trouble taken at this stage is well worth while. Mark the guide lines with a scriber or a sharp knife and file the waste away. Do not cement the sides in position until the lid has been made.

The Lid

The lid is cut from $\frac{1}{8}$in. Perspex and is rebated at three edges. The best way to do this is shown in Fig. 4, using a similar technique as before. Cut the Perspex $3\frac{3}{4}$ins. long by $1\frac{3}{4}$ins. wide and mount it on the block with three small countersunk screws.

With the cabinetmaker's scratch, cut a groove $\frac{1}{8}$in. wide and 1/16in. deep at a distance of $\frac{1}{4}$in. from the edge. Next turn the block round on the bench top to the position shown in Fig. 4 B. One side is now rebated by shifting the cutter along to the position shown in the small sketch.

Remember that it is most important to keep the stock tightly pressed against the edge of the material or the rebate will not be cleanly cut. The other edge is rebated by turning the Perspex round on the wood block and working as before. When finished, the waste material is cut away and the edges are polished.

Assembling

The parts are now assembled and checked for size, after which the four sides are cemented to the base, not forgetting the mitres and the end joints of the fourth side. Any cement which gets into the grooves at the mitres should immediately be cleaned away with a sharpened matchstick, or the lid will not slide right home.

A small knob is next cut from a scrap of Perspex and cemented in position and your hair grip box is ready for use. Should you prefer, however, a small monogram or initial can be cut from 1/16in. material and cemented to the lid to make the box a really personal gift.

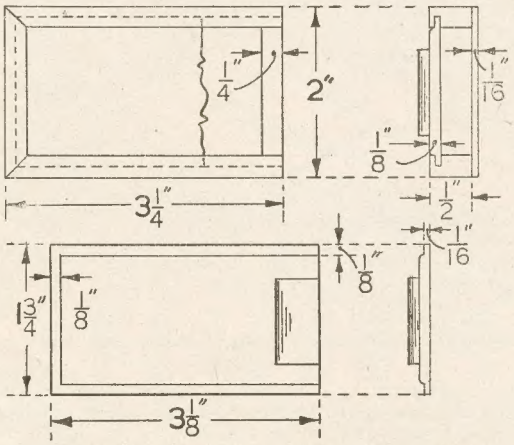


Fig. 1—Plan and section of box and lid parts

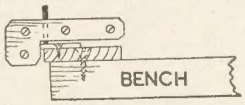


Fig. 2—Section showing Perspex fixed for grooving

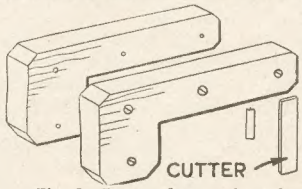
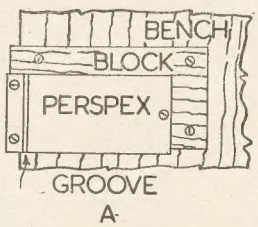


Fig. 3—Parts of scratch and cutter



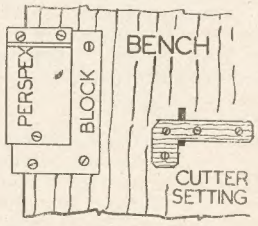
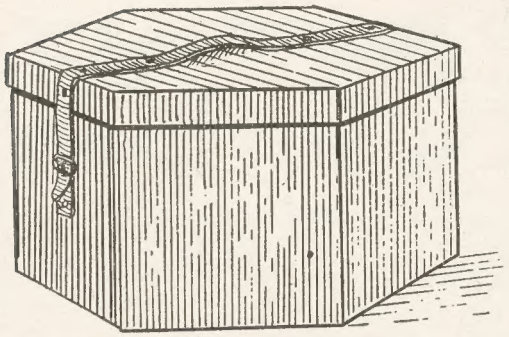


Fig. 4—Bench view of work and groove cutter

The handyman can make a strong and attractive

LADY'S HAT BOX



IF you wish to make a useful present to a lady friend why not the hat box illustrated ? It is not a difficult job at all and the materials are inexpensive. Cardboard is used for the box, which can afterwards be covered with fancy paper, leatherette, or American cloth. A substantial article will result, remarkably strong if well made, and light to carry about.

Almost any cardboard can be employed, that from grocers' cases being a suitable thickness. Make a start with the bottom of the box, this being of hexagon shape. On the cardboard strike a circle, and without altering the radius of the compasses mark off the six divisions necessary on the circle, as at A, Fig. 1. Connect these divisional points to form the hexagon.

The Sides

For the sides of the box cut a strip of the cardboard, B, to the width given and as long as can be got from the size sheet of cardboard available. On this, measure off distances, one for each of the six sides, as shown in the diagram. If you cannot get the six sides out of one strip, use two or three as required.

On the lines marking the sides make a slight cut across with a sharp knife. This facilitates bending the cardboard easily and to a sharp angle.

The sides should now be secured to the bottom of the box with 1in. tape, glued inside and out, as in Fig. 2. Strips of the tape should also be used to join the lengths of cardboard together, when the whole of the six sides cannot be cut from one long piece.

Covering

The box is now to be covered, inside and out. Do the outside first, cutting a strip of the chosen material 9ins. wide and long enough to reach round the box, with ½in. overlap. If fancy paper is to be used the strip can be pasted round, but if leatherette, or american cloth, then a thin hot glue should be used. Glue or paste the cardboard and lay the material over, rubbing it well down and avoiding creases. Allow ½in. at top and bottom for bending over.

This part of the work can be rendered much easier if it is supported on a board, the latter being cramped on the table to allow enough of the board to extend beyond for the box to rest on, as in Fig. 3. As each side is covered, snip the material at the top and bottom angles, and glue over the bottom. Leave the gluing over the top until last.

Arrange for the ½in. overlap on the sides to be glued first, so it is covered when the job is completed the joint being at the angle, not in the middle of any particular side. All six sides covered, glue and bend the top overlaps over on the inside.

Interior Covering

For the inside of the box a white paper can be used, or a coloured one come to that. Cut the strip for the sides to 8ins. plus ½in. over to the bottom. Paste this round the interior, and bend the overlap neatly to the bottom of the box, snipping it with scissors to avoid ugly creases. Cut a hexagon of the paper the exact size of the bottom, paste it and press it well down. This completes the box part.

For the lid cut a hexagon slightly larger than that for the box, large enough to allow the lid to fit over easily, but not too loose. The rim part is a strip of the cardboard, 1in. wide. The lid is glued together in exactly the same way as that adopted for the box and is covered inside and out similarly, with the exception that the top of the lid is, of course, covered with the outside material.

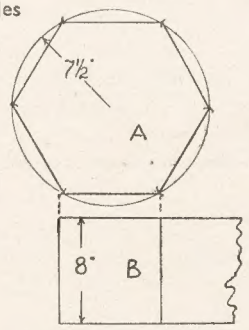


Fig. 1—Forming the hexagon

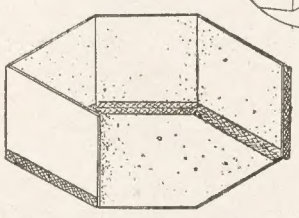


Fig. 2—Constructional details

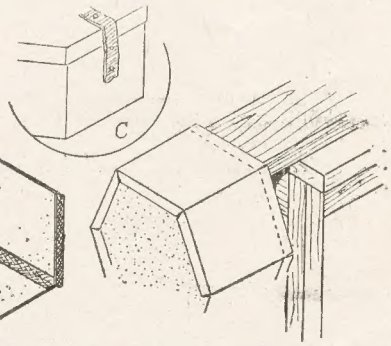


Fig. 3—Box support and lid strap details

The Securing Strap

For economy sake this outside covering can be omitted from the bottom of the box, but if it can be spared it is as well to use it, especially if the box is to be used for travelling.

Strap Handle

For securing the box a leather strap is used, or least recommended. This strap can be ¾in. to 1in. wide and can usually be bought at any leather shop or portmanteau stores. It serves as a hinge as well as a fastener and is secured to the box firmly with bifurcated rivets. The fitting at the side for making the hinge is shown at detail C, the straps being riveted in two places, just below the lid, and to the lid itself about where shown.

Bicycle Polish

HERE is a recipe for a bicycle polish that will make parts look like new. Add one tablespoonful of vinegar to four tablespoonfuls of raw linseed oil, and shake the mixture well. Apply to the enamelled parts of the bicycle with a dry rag and finish off by polishing with another rag.

The strap is then carried across the top of the box where it is riveted in two places 6ins. apart. Allow a little slackness of the strap, between the rivets, to make a handle of it for carrying.

That part of the strap holding the buckle is cut off and riveted to the opposite side of the box, the strap being then cut to a suitable length to hold the lid securely without an unwanted length of strap dangling down. An appreciated addition to this hat box is the initials of the owner, which can be put on according to the skill of the maker.

This practical piece of carpentry is a combination

SEAT-STOOL WORKBOX

HERE is a useful piece of furniture, simple to make and attractive in design. This stool-workbox would be just the thing to make as a wedding or birthday gift, and would be much appreciated during the long evenings.

The main proportions of the box can be seen in the front and side views, Figs. 1 and 2 respectively. Mahogany would be a most suitable wood, although oak, if it can be obtained, perhaps, will be chosen by the great majority of workers on account of its ease of finish and its durability.

The ends of the stool should first be drawn out and cut. The dimensions can be got direct from Fig. 2. They should be ¾in. thick with the top edge cut to a curve of the radius shown.

The sides being 14ins. wide should preferably be made up of two 7in. boards planed and glued together flat. They should be squared up accurately and connected flush to the ends by means of hardwood dowels running ½in. into the ends and ½in. into the end grain of the sides.

The four angles inside the box should be strengthened by gluing in some lengths of ½in. angle fillet.

Floor

The floor of the box might consist of deal battens, two widths of grooved and tongued boarding glued together and held by cross stays at the ends to make a very strong job. This should be glued between the sides and ends and further strengthened by running in screws through the sides.

The base of the box which helps to raise it a few inches from the floor, is made in the form of an open frame blocked together at the corners as shown in Fig. 3. These corner blocks will serve to take small castors if desired. The base should be pocket screwed from inside with gluing block added for strength in the angles.

Coming to the top of the box there must at first be added two side rails as A in Figs. 1 and 4. These rails, 1½ins. by ¾in. in section, rest on the sides of the box and are screwed to the ends.

Seat Portion

The seat is made in the form of an open frame from four rails halved together at the corners as in the detail in Fig. 4. They should be strongly glued and screwed together.

The enlarged detail in Fig. 4 shows how each rail is cut down to half its depth to bring the top and under-face flush.

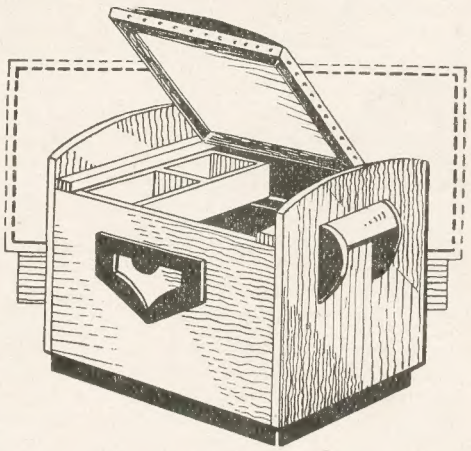
When the frame has so far been made it should be tested for size and easy fit between the end rails and the sides of the box. The frame must not be too tight between the side rails. In fact, there must be clearance enough left here for the thickness of the covering material which forms the padded cushion, together with the nails which hold it to the framing.

Cover the frame with chair webbing as depicted. On this spread a good piece of hessian over which again put some suitable padding—horse-hair or flock. Over the whole padding stretch a piece of art leather or any art material that would suit the particular furnishing of the room in which the box is to occupy.

Fitting the Covering

The covering material, after laying over and stretching, should be nailed on with large-headed brass nails. The under side of the seat should have a piece of odd plywood or composition board, with neatly finished edges screwed to the framing. It should be afterwards stained to match the rest of the woodwork.

A simple tray can be made from ¼in. fretwood to fit inside the box at one end and to slide along on two runners of ½in. by ¼in. pieces screwed to the sides. A pair of stout brass hinges will hold the seat to the box, the hinges being recessed into the side of the box so that the seat frame rests closely to it. The position of the hinges on the frame is shown in Fig. 4.



Pleasing Handles

The handles on the ends of the box are useful, simple to make, and certainly an added attraction. Each handle consists of three distinct pieces cut and put together as Fig. 5 shows. The side pieces of the handle measure 6ins. by 2ins., while the piece sandwiched between them measures 4ins. by 2ins. It is shaped to suit the hand as seen in the section of this piece in Fig. 5.

Set each handle centrally on the ends of the box, and put in screws where possible. Simple fretted decorative overlays can be added if desired to the sides as shown.

They should be of thin wood carefully spaced out and glued on.

All the woodwork should be cleaned with fine glasspaper before being stained and polished.

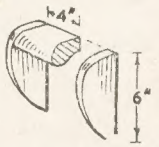


Fig. 5—Handle parts

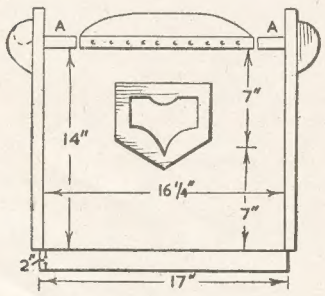


Fig. 1—Front elevation of parts

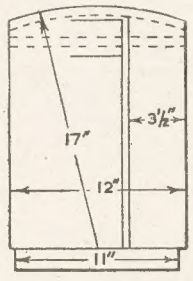


Fig. 2—The shaped ends

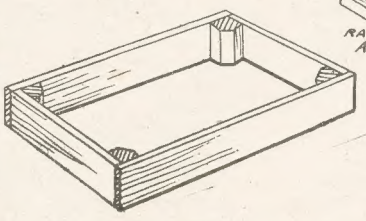


Fig. 3—How the inside box is made

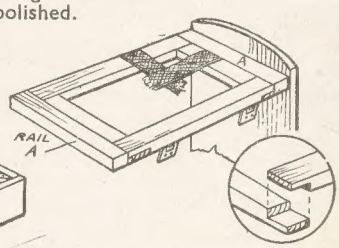


Fig. 4—Details of lid frame and webbing

A helpful talk about Track in our series on building MODEL RAILWAYS

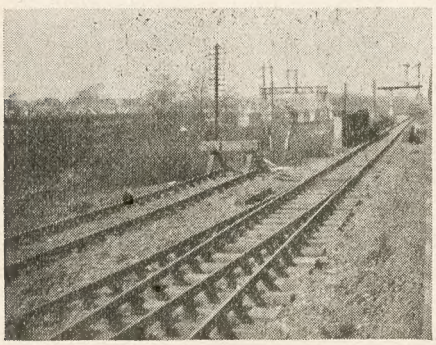
IT is an odd thing how many model railway enthusiasts who are so meticulously careful about their rolling stock and locomotives, and who take the greatest amount of trouble to reproduce every detail of the prototype on their models, yet are very careless when it comes to making their permanent way look like the real thing.

Admittedly, the average model railwayman's track is not so poor as to cause frequent derailments, but, often as not, it could be much better laid and equipped. Sleepers are spaced too far apart, curves are carelessly laid and not drawn out on paper before laying, points dart off from the main line at impossible angles not at all reminiscent of the real railway.

Build for Atmosphere

All these unwanted features strongly tend to destroy the true "atmosphere" so dearly sought by the enthusiastic model railwayman.

These and other features are not due to deliberate mistakes, but are caused mostly by lack of observation and carelessness. If it were only more generally realised that, after all, it is just as quick and easy to build track with care as it is to botch the job, better amateur layouts would speedily result.



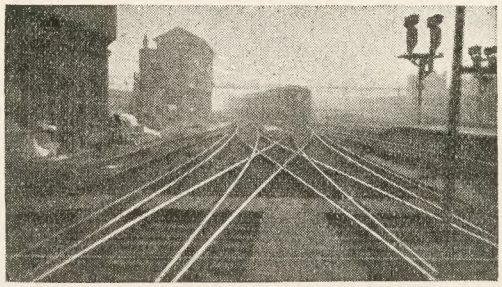
Sleeper spacing as shown on a portion of main line and siding

On the many scores of model railways the writer has been privileged to inspect, it was often noticeable that all the points on any one layout were more often than not of the same frog-angle and of the same radius—which gives to a layout a very monotonous appearance.

Actual Practice

In actual prototype practice, very few turn-outs have the same angle of divergence, each one differing according to circumstance—within specified limits, of course.

Sharp curves (sharper than absolutely necessary and sudden changes of direction from straight to curved track should be stringently avoided as much as possible within the space-limitations at one's disposal. All pointwork should merge where practicable into the general "lay" of the track. This ideal can be usually achieved at no extra cost by a little scheming before actually starting on the job of laying the track.



Only rails actually run on should be bright

It is just as simple, when making up points, to make each one to suit a definite place on the layout as to make them all alike. If a "single-slip" point is demanded by the configuration of the tracks at the approach to a terminal station, then one should be used, instead of trying to make do with two ordinary crossovers. The cost of these would, incidentally, be far greater than that of the single-slip point.

It will be found, on observing real track layout, that complicated conformations are never used if a simple arrangement will adequately cope with all the traffic movements. Complicated pointwork is both costly in production and upkeep, and the same remark applies equally in model form. So let simplicity and individuality be the keynotes of your permanent way layout.

Question of Radius

To take another much-discussed point in laying model railway permanent way—that of the maximum radius of main-line curves, about which it is very difficult to dogmatise.

Every enthusiast is not fortunate enough to have the "land" at his disposal to allow of the use of 6ft. radius curves on his "O" gauge railway, and it is very heartening to realise that the enthusiasm of model railwaymen is not measured in terms of the radius of their main line tracks.

Yet it is very true that it is always best to allow the absolute maximum radius possible for the main-lines, even if it means curtailing the total trackage to get that radius. For running smoothness and a subtle atmosphere will automatically be produced as a direct result of such planning.

Sleeper Spacing

Then there are many track details which should always be carefully observed if a proper finished appearance is to result. For example, take the case of sleeper spacing.

How often does one see "O" gauge track with the sleepers spaced at the scale distance of $\frac{3}{4}$in. centres? How often is the rail mounted in chairs on *every* sleeper? Those who have seen correctly-spaced sleepers—instead of the normal $1\frac{1}{2}$in. spacing—would never dream of ever being satisfied with anything else, or of ever returning to the old "normal".

Unfortunately, it means a "double dose" of chairs and sleepers, but it must be remembered that neither of these items is very expensive. The extra amount of work involved in laying at the $\frac{3}{4}$in. centres is more than repaid by the superb appearance of the finished track.

If desired, "dummy" card sleepers (without any chairs) can be slipped between the real sleepers with very good effect and at no added cost whatever. When painted rusty-brown the card and real sleepers are completely indistinguishable, and the overall effect is precisely the same as the other more costly method.

Dull Surfaces

Most model railway layouts also "boast" of brightly-shining tracks for main lines and sidings alike. But were it possible to consider the effects of a "model English climate" upon a model railway, it would be appreciated that all but the actual running surface (the "table") of the rails would be of a dull rusty-brown colour, and not at all bright.

This subtle, but overwhelming change in the cause of truly realistic appearance can easily be carried out by simply painting the whole of the rails (sides and table alike) with a really sloppy, quick-drying paint composed of black colour ground in oil with red-lead added to produce the shade of "rust" required.

The paint should be thinned with turpentine alone—without oil—and, after painting, the running surfaces of all rails should be carefully wiped off with a rag, leaving all wing-rails, check-rails and guard-rails upon

(*Continued foot of page* 244)

How the amateur can specialize and undertake

CHURCH PHOTOGRAPHY

WHEN an amateur photographer has decided to make an all-the-year-round job of his hobby he must recognise that some seasons of the year are not always the best for certain subjects. Also it may happen that having gone out for landscapes he has been defeated because the weather has turned dull and rain has stopped any further outdoor work.

Interior photography offers an excellent alternative, and is the one subject which can be successfully tackled without any regard to the condition of the weather. Naturally

An interior of Wyck Rissington Church

when one mentions interiors the mind immediately turns to cathedrals and churches and the beauties of ecclesiastical architecture. This chapter, however, is not so much to do with cathedrals or architecture as it is with our old parish and country churches.

There is, up and down our country, in practically every village and hamlet, and certainly every town of any importance, a beautiful edifice, a monument depicting the deep faith of our forefathers who lived five, six or even ten hundred years ago, and gave freely of their wealth and time in order to erect a memorial to that faith that would stand for future generations to use for their worship.

"Wool" Churches

Those of us who have spent holidays in the Cotswold district can very easily recall the visits to some of the marvellous examples of mediaeval churches, locally termed the 'Wool' churches, because the money for erecting them was forthcoming from the wool merchants and farmers of the district. Those buildings are unique in many ways, especially perhaps as regards the architecture. They have high naves and lofty clerestory windows, slender pillars supporting and forming delightful arches. There is display of clever craftsmanship in the carving and woodwork of screens, pulpits, lecterns and pew stalls—all items of beauty which never fail to appeal to the photographer even if the light is not good enough for an exposure.

Subjects Everywhere

It is not necessary, however, to travel to the Cotswold country to find items that will create interest. For churches with similar characteristics are to be found everywhere, and a bus ride is often all that is necessary to get you to one where much work can be done with the camera.

There is another side of this work which makes it of first importance to the photographer who uses his hobby in connection with the collection of items of historic interest. If anyone is seeking such records of any village or district surely the first place to visit is the old church. This is probably the oldest building in the neighbourhood and, usually, these churches are truly store houses of all the local history, tragedy, and romance.

Indeed, one could in many cases write a most interesting account of almost everything of any importance that has happened in the village by what is to be seen in the church or in its registers and records. This is just what makes the study of old parish churches of special interest to photographers.

Perhaps it would be as well to illustrate this point by the experiences of one who has been a keen photographer for a number of years and has a very large collection of prints of almost every type of subject. He always maintains that the prints of church interiors attract much more attention than any other subject and invariably several questions are asked concerning the church. Such as Where is it? How old is it? Are there any items of historic interest? and so on.

It is just the same when a slide showing the interior of a church is shown during the course of a lecture. That slide is sure to raise a question or two from the audience at the end of the lecture, and it is usually very apparent that the whole of the members are quite keenly interested in any story relating to the church or village.

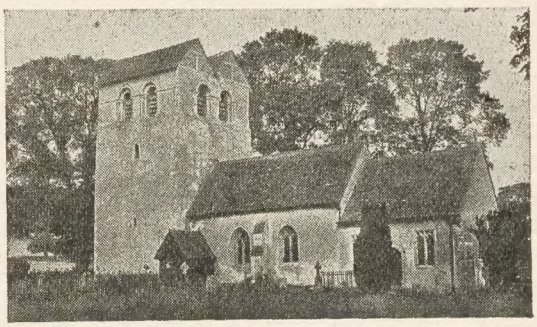
It may help readers to get some idea what to look for so that they may commence to make a collection of these items; it is surprising how quickly such will grow. The first note must be one of warning. Do not rely on your memory. Carry a small notebook in which to record dates and details.

A Useful Book

You will find that this book will be one of your greatest assets, and if you will make a practice of entering the exposure data as well then this too will well repay you, especially in regard to the exposure times for interiors. For church interiors are notoriously difficult to judge. Quite usually they are so dark that an open aperture and a full minute with a fast film will not be too much.

The illustration of Wyck Rissington Church is an example of a very dark interior and the author was very surprised to get such a fair result—75 seconds with lens at F5.6 and H.P.3 film.

Rissington is a very old church and contains many items of interest. Above the choir stalls are some carved plaques depicting incidents in the life of Christ. The carving is extremely fine and must have been done by a real craftsman. The plaques were hidden and lost for about two hundred years, being ultimately found in an old barn buried under the floor.



The Author's picture of Fingest Church

There is also a small piece of blue glass which is possibly the oldest blue in England.

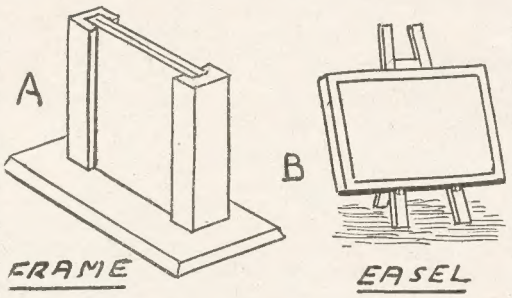
At Painswick in Gloucestershire there is a "Two-storeyed" Lych Gate. Fingest Church (see illustration) is another very ancient one. Locally it is said to date back to Saxon times. You should note the double tower. Friston Church, in Sussex, is another very old edifice and in its churchyard are several graves containing the

(Continued foot of page 245)

A picture is given added depth by following this suggested

NOVEL PHOTO STYLES

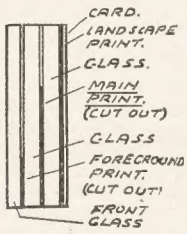
HERE is a novel and unusual way of presenting a photograph—a way which gives it apparently a back-to-front depth. Actually, three prints are required for the "finish", also three old glass negatives the same size as the picture, or pieces of glass cut to similar dimensions. If negative glass is not used care must be taken to see the selected pieces are quite free from flaws and blemishes. Other requirements are little passe-partout binding, some wood for a simple stand frame and a rectangle of stiff card.



The Three Prints

Of the three prints required, the first is the picture you want to exhibit, say of a friend or animal or perhaps a house or train. The second must be a complete landscape picture with, if possible, a good sky effect, while the third must have on it bushes, grass or plants taken near to the camera which can be made to form a foreground.

The first and third pictures have to be cut and trimmed quite a lot but the landscape is used just as it is. The final picture is a composite production of these three and this is how it is made.



Section showing parts

First take the landscape and using a good adhesive, mount it freely on the rectangle of card, putting both under pressure while drying. The card should be the same size as the glasses, which, if you are using photographic cleaned-off negatives, will be 3½ins. by 2½ins, 4½ins. by 3¼ins. or post-card dimensions.

Now take the main photograph and with great care cut round the outline of the image, using a sharp-pointed knife rather than a razor blade for this. The edges of the cut must be clean and if the picture is on a post-card or double weight paper it is good to darken in the edge with a slight touch from a black crayon or water colour brush containing a little nearly-dry black or grey paint.

The plants or similar items to come in front (taken from a bigger picture) must form only a thin strip at the bottom, or be along the bottom and up the sides, as would be the case if looking through trees to some scene beyond, and they are cut and treated the same way.

Once the idea is obtained it will be found that quite a lot can be done with foreground to give artistic effects, but for the first, attempts to have it just as a fringe along the bottom front is the best.

Assembly

The prints ready, we can now assemble. The glasses are first cleaned, as it is very annoying to get everything bound together only to find a mark on one of the inside surfaces. A rub over with ammonia is good, as this removes all grease. French chalk also gives a very pure surface, as do certain metal polishes. If none of these things are to hand a rub with soft paper will generally give a satisfactory finish if the surfaces are fairly clean to start with.

The figure shows how the items are put together. The mounted scene goes at the back behind the first piece of glass, the main picture between the first and second piece and the foreground between the second and third. If only a small strip is used for the foreground it should be held to the glass with a touch of adhesive to prevent slipping. Once together, everything is bound tightly with the passe-partout strips.

A Stand Frame

The picture is now finished, and it will be found that quite an impression of depth is given by the separated layers. It can be used as it is hung on a wall by means of a small tab fastened to the card at the back. Pictures on walls, however, are not too popular at the moment and it is probable that the effort will be better received if placed on a small easel B, or in a simple slip-in frame as A.

In the latter case if great care is taken in getting the side channels to hold the glasses and card tightly, the passe-partout strips can be eliminated, the forground, however, being still held with adhesive to the front surface.

This method of three-layer mounting gives a good scope for anyone with artistic bent and all sorts of variations can be made on the main idea.

Alternative Types

Thus, the back scene can be part of a bought photographic picture post-card and the foreground can be cut from another card, which means that the main picture only need be your own print. Again, if your print is finished in sepia, the scene at the back and the foreground can be from coloured post-card, which it will be found will tone quite well with plain sepia.

The foreground too, as suggested, can be just a strip along the bottom of the picture or in the nature of a frame—that is with grass, etc. along the bottom and trees up each side.

Another tip is that you may be able to get the background from the main print if there is a good sky. Then you cut out the figure that is to go between the glasses, and mount the remainder, which is the sky, etc., slightly dropped in the back card. If the main figure goes from side to side this is quite effective.

Model Railways—(*Continued from page 242*)

which wheels never run, and which in prototype are always well rusted.

The amazing effect of this treatment is to cause the rails to appear thinner and not of such a great height, whilst the bright running surfaces passing through a dull-coloured background enhance the appearance of a layout beyond all belief. It has to be actually seen to be credited.

Ballast is another thing which seldom gets due consideration from the average enthusiast. Its colour varies from the dirtiest black to the lightest shade of grey, according to its source and the traffic passing over it.

When really old, it usually becomes turned to the same colour as that of the sides of the rails, which is a nondescript dull, grimy, rusty-brown-black. It is usually much dirtier in the "four-foot" way than outside it, where it is generally several shades lighter in colour.

Ballast in goods yards is usually very grimy, being covered with a mixture of bits and pieces of odd material which have fallen from the wagons above during their loading and unloading. In loco depots there is always a preponderance of pieces of coal, slag and ash.

A general observance of these and many other points of detail which will readily come to the mind of the readers, is well worth while. Anyone using ordinary brass or steel rail will immediately notice a vast improvement in realism on a layout so treated. Even tinplate track is 50 per cent improved out of all knowledge.

What will hold various materials is explained in

GLUES FOR ALL JOBS

THE handy craftsman is often being asked can he mend this or that article, which brings up the question as to what glues or cements will do the job best. For many general repairs certain tube glues are remarkably efficient, but they will not hold everything satisfactorily.

Take, for instance, celluloid and celluloid-base articles. These are best repaired with a celluloid cement. This you can make readily by dissolving 1 part of celluloid scrapings with 10 parts of amyl-acetate. Apply a coat of this to both surfaces to be joined and let it dry out, which will only take a few minutes. Now apply a second coat and when tacky bring the sections together and bind or put under slight pressure till hard.

A Welded Joint

A celluloid join is really like a weld. Amyl-acetate is a celluloid solvent and applied to the parts, it dissolves and makes sticky a certain depth of the material. Brought together these glutinous layers merge and then harden, so the join is solid celluloid from the back of the one piece to the front of the other.

For leather goods, thin strips can be secured to thicken, as in certain book repairs by using ordinary flour paste. Leather can be attached firmly to cardboard by a cement made of equal parts of glue and flour paste.

Where leather is subjected to wear, use an adhesive composed of gutta percha dissolved in bisulphite of carbon till a treacly mass is formed. The surfaces to be fastened together should be warmed and pressure employed while drying takes place. This gutta percha cement is very efficient and can be used on the soles of shoes (rubber) that are coming away.

Stoneware, marble, china etc. often come under the mender's hands and at times it is essential that the repair be absolutely water-tight. A cement for these materials which also fulfils this need can be made by mixing together—

2 parts of whiting
1 ,, ,, sand
1 ,, ,, litharge
1 ,, ,, plaster of paris
½ ,, ,, resin

When thoroughly intermingled add copal varnish slowly till a thickish paste is obtained. Apply to the edges to be joined and if possible allow to dry under pressure.

A good cement for glass, china and earthenware which is not necessarily waterproof can be made if it is possible to get a little white of egg, by mixing this (well beaten up) with slaked lime till a creamy paste results. This cement is good, but it sets very rapidly and so should be used at once after preparation.

This cement too will mend marble, but one of its outstanding uses is that it will join meerschaum—a thing which few adhesives will do satisfactorily.

White of egg is an adhesive in itself and it is a pity that eggs are so precious at the moment. But at times only the smallest amount is needed to effect some repair and this can be taken from an egg that is about to be fried without any appreciable reduction in the size of its white when it appears on the plate.

It is with lime for the repair of glass that this product of egg is perhaps seen at its best but it can form the base of quite a number of cements. So roll on the time when eggs are really plentiful again!

For Earthenware

For earthenware, where it does not matter if a tape shows on the outside, a cement can be made by working together into a paste equal quantities of red lead and gold size. Put this on a length of linen tape and apply to the crack on the outside. On the inside of the vessel rub a thick solution of canada balsam into any gaping sections of the break.

Now about those little glass panes that have to be fitted into a lead surround such as are found in vestibule doors, windows, etc. Here the very best cement is made by mixing together equal parts of white and red lead and adding, a little at a time, linseed oil till a paste forms. Put in also a quantity of lampblack so the cement will be self-coloured. Apply a fair quantity of this around the lead and glass, allow to dry out for several hours and then brush off any excess.

Metal Adhesives

Metals generally require a special adhesive, and if at any time you have to fasten felt down to a metal surface this can be done by dissolving scotch glue in strong acetic acid. Metal to glass repairs are effected by mixing—

3 parts of copal varnish
1 ,, ,, dryer oil
½ ,, ,, turpentine

Place this in a jar which in its turn must go in a pan surrounded with water. Heat and stir till everything is well together then slowly add slaked lime, stirring and pressing all the time till a thin paste is made, when the mixture is ready for use.

A repair which often comes one's way is the refastening of knife blades into the bone handle. Resin alone will do this. The tang of the knife is heated to a point near redness and then it is pressed into the handle which has been filled with resin. The parts should be held till setting takes place.

While resin will do the job by itself a better repair is made by mixing 1 oz. of flowers of sulphur with 1 oz. of kaolin and 2 ozs. of powdered resin. These are well worked up together and the hollow in the handle filled. The tang is then heated as before and pressed in. This makes a very firm repair.

For mending broken tiles at the fireside plaster of paris by itself will often do all that is necessary, the plaster being mixed to a thick paste and applied at once.

Photography—(*Continued from page* 243)

bodies of unidentified persons washed up at the foot of Beachy Head or in the near neighbourhood.

Four or five miles further into Sussex there is the beautiful edifice of St. Andrew, Alfriston. There seems little doubt that this is one of the oldest in the district, for its list of rectors dates back to 1272. Its architecture is unique. The interior is 114 feet long by 70 feet, over the arms of the Cross. There are no aisles, but the nave, chancel and transepts open on to the crossing and here we find the bell ropes hanging free.

At Hendon, a matter of five miles out from the West End of London, the parish church cannot fail to interest everyone who can spare a few minutes. The building dates back to the 13th century and it is fairly certain that a church existed there in Saxon times and was probably of wood. Here will be found a wonderful Norman font in the form of a large square basin dating back to 1150 and 1180. Another item of interest is the grave of Sir Stamford Raffles, the founder of Singapore.

So one can continue, for in every county there are scores of similar examples which to the keen photographer offer ample opportunities. It should be a rule for every amateur to follow to get in touch with an official of the church if possible before making any exposures. Generally speaking, this proves of great advantage simply because vicar or verger can enlighten you with information that can be very well weaved into a story for passing on to your friends or retailing when the picture comes on to the screen.

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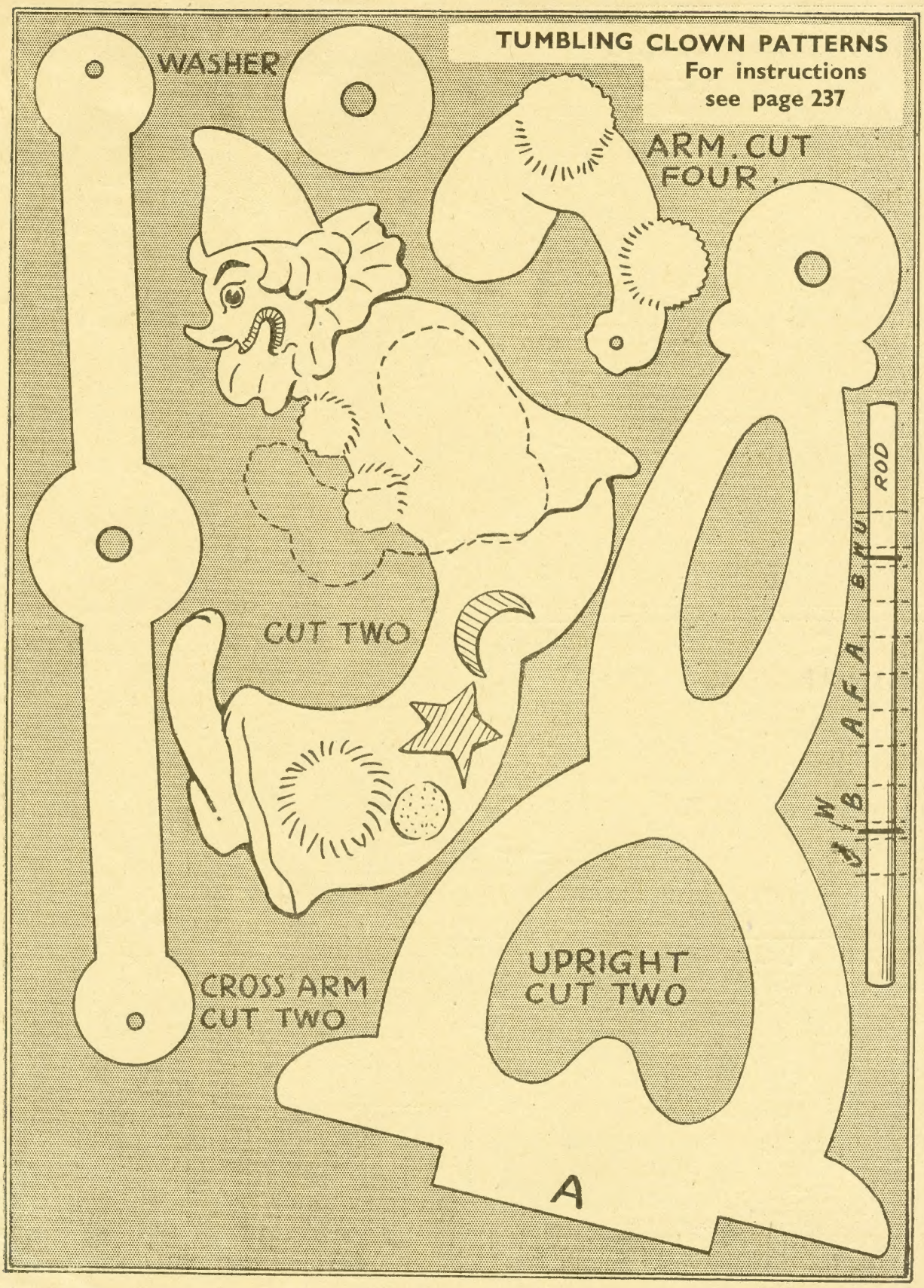
TUMBLING CLOWN PATTERNS
For instructions see page 237
WASHER
ARM. CUT FOUR.
CUT TWO
ROD
W
B
A
F
A
B
R
U
CROSS ARM CUT TWO
UPRIGHT CUT TWO
A

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